



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/773,438	01/31/2001	Dennis L. Salbilla	P02104US0/10100157	3287
26271	7590	11/17/2004	EXAMINER	
FULBRIGHT & JAWORSKI, LLP 1301 MCKINNEY SUITE 5100 HOUSTON, TX 77010-3095			CHORBAJI, MONZER R	
			ART UNIT	PAPER NUMBER
			1744	

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/773,438

Applicant(s)

SALBILLA, DENNIS L.

Examiner

MONZER R CHORBAJI

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5,6,12,14,15,27 and 28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5,6,12,14,15,27 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/31/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

This non-final office action is in response to the RCE received on 09/20/2004

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 28 is rejected under 35 U.S.C. 102(b) as being anticipated by Carson (U.S.P.N. 4,505,758).

With respect to claim 28, the Carson reference discloses an apparatus (col.2, lines 12-15) for cleaning heat exchangers in oil refining plants (56-60) including applying an electric charge to hydrocarbon fluid streams (col.2, lines 12-15 and lines 58-60) by flowing the stream past the electric charge. The Carson reference applies electric charge to heat exchangers in the field of oil refineries such that the apparatuses involving catalytically cracking and subsequent processing of crude oil are all inherent features of refineries that result in an improved hydrocarbon processing efficiency. For example, the Carson reference provides an example of applying electrical charge to a heat exchanger receiving hydrocarbon liquid stream after being processed by hydrocracking apparatus (col.3, lines 63-68 and col.4, lines 1-7).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1, 5-6, 12 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carson (U.S.P.N. 4,505,758) in view of Harms (U.S.P.N. 3,933,606).

With respect to claims 1 and 27, the Carson reference discloses a method and an apparatus (col.2, lines 12-15) for cleaning heat exchangers in oil refining plants (56-60) including applying an electric charge to hydrocarbon fluid streams including intrinsic contaminants such as coronene (col.2, lines 12-15, lines 58-60 and col.4, lines 8-9) by flowing the stream past the electric charge. The Carson reference applies electric charge to heat exchangers in the field of oil refineries such that the steps and apparatuses involving catalytically cracking and subsequent processing of crude oil are all intrinsic features of refineries that result in an improved hydrocarbon processing efficiency. In addition, the Carson reference applies electric charge while flowing the hydrocarbon streams. However, with respect to claims 1 and 27, the Carson reference fails to teach the step of adjusting the magnitude of the electric charge. The Harms reference, which is in the art of treating contaminated water by electrolytically removing

suspended and dissolved impurities, teaches that it is known to vary the magnitude of the electrical charge applied to the fluid in order to affect a desired degree of contaminant removal depending upon the composition of the water being treated (col.5, lines 57-61). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process of the Carson reference to include an electric charge magnitude adjustment step as taught in the Harms reference in order to affect a desired degree of contaminant removal in the fluid being treated (col.5, lines 57-61).

With respect to claims 5-6 and 12, the Carson reference discloses the following: applying an electric charge to a heat exchanger (abstract), applying an electric charge to the shell of a heat exchanger (figure 1, 4 and 13-14) and applying a constant electric charge (col.4, lines 15-18).

6. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carson (U.S.P.N. 4,505,758) in view of Harms (U.S.P.N. 3,933,606) and further in view of Sivavec et al (U.S.P.N. 6,451,210).

With respect to claims 14-15, both the Carson reference and the Harms reference fail to disclose a step for determining the level of the contaminants in the liquid hydrocarbon stream. The Sivavec reference, which is in the art of treating a contaminated liquid streams (col.2, lines 32-36), teaches the use of a sensing module to detect the level of contaminants in such streams. The Sivavec reference further teaches that once the concentration has been determined the liquid is passed to an adsorption zone, which can include a filter or precipitation unit. A turbidity-sensing unit can be used

to direct and aqueous VOC stream to a filter or precipitation unit, prior to carbon bed treatment. Other treatment processes include ion exchange beds, air stripping columns and filters (col.2, line 30 to col.3, line 25). This reference has been relied upon to teach that it is known to measure the concentration of contaminants prior to treatment in order to determine the correct type of treatment. As a result, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of the Carson reference to include a step of measuring the contaminant concentration in the fluid stream in order to determine the correct treatment parameters as taught by the method of the Sivavec reference.

Response to Arguments

7. Applicant's arguments with respect to claims 1, 5-6, 12, 14-15 and 27-28 have been considered but are moot in view of the new ground(s) of rejection.

The Carson reference is used to show that applying an electric charge to a heat exchanger through which liquid hydrocarbon stream is flowing is known in the art.

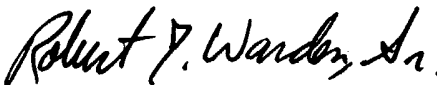
The Harms reference, which is in the art of treating contaminated water by electrolytically removing suspended and dissolved impurities, is used to show that the concept of varying the magnitude of the electrical charge applied to fluids is known in the art.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Ferguson (U.S.P.N. 4,370,236) reference teaches applying an electric charge to process components within a liquid hydrocarbon streams.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONZER R CHORBAJI whose telephone number is (571) 272-1271. The examiner can normally be reached on M-F 6:30-3:00.
10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ROBERT J WARDEN can be reached on (571) 272-1281. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Monzer R. Chorbaji MRC
Patent Examiner
AU 1744
11/02/2004


ROBERT J. WARDEN, SR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700